

### REMARKS

In the Office Action dated June 5, 2005 (the "Office Action,") claims 31, 33, and 37 were rejected under 35 U.S.C. § 102(b) as being anticipated by Cherny (U.S. Patent No. 5,852,808, "Cherny"). In addition, claims 1-30, 32, and 34-36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Cherny.

Applicants respectfully traverse each of these rejections and request reconsideration of the above referenced application in light of the Remarks that follow.

Claims 31, 33, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Cherny, U.S. Patent No. 5,852,808.

Regarding to claim 31, Cherny discloses method for determining the comparability of at least two instruments, comprising the steps of:

identifying a plurality of factors associated with said at least two instruments (column 4, line 60 - column 5, line 25);

determining a value for each of said plurality of factors for each of said at least two instruments (column 5, lines 50-65);

forming a covariance matrix, said covariance matrix including a weighting factor for each of said plurality of factors wherein each of said weighting factors relates to an amount of market activity attributed to said corresponding one of said plurality of factors (column 4, lines 20-47);

determining the comparability of said at least two instruments based on said values for each of said at least two bonds and said covariance matrix (column 4, lines 1-10, e.g., the covariance of a steel company and an automobile company might be about 0.2, the covariance of a bus company and an airline would be -1.0).

Office Action, pg. 2-3.

Applicants respectfully disagree with the statement in the Office Action that claims 31, 33 and 37 are anticipated by Cherny under 35 U.S.C. 102(b). To support a rejection under 35 U.S.C. § 102(b) the cited prior art of reference must disclose each element of the rejected claim(s) in the manner recited by the claim.

In Applicants' independent claim 31, the different required steps of the method refer back to the identified plurality of factors associated with said at least two instruments, namely, the instruments whose comparability is to be determined. Thus, the values determined for each of the plurality of factors for each of said at least two instruments, are those values of the factors identified in association with the instruments to be compared. The step of forming a covariance matrix also requires that the matrix include the values determined for each of the plurality of factors identified to be associated with the instruments whose comparability is to be determined. Further, the step of

determining the comparability of the at least two instruments, is based on the values of the plurality of factors identified to be associated with the instruments and the covariance matrix formed.

For at least the foregoing reasons, Cherny does not disclose at least the elements of independent claim 31 “identifying a plurality of factors associated with said at least two instruments.” In addition, Applicants respectfully disagree with the assertion that “identifying a plurality of factors associated with said at least two instruments” is disclosed in column 4, line 60 - column 5, line 25 of Cherny. The section of Cherny cited in the Office Action to support this statement discloses a number of factors related to a security for the calculation of a particularly preferred mathematical representation of an audit failure index AFI (Cherny, col. 4, lines 49-61). Thus, the cited text does not teach identifying a plurality of factors associated with said at least two instruments, the comparability of which is to be determined. Cherny is not concerned with determining the comparability of at least two instruments. Cherny is concerned with devising a strategy to provide professional liability insurance coverage to professionals who have publicly traded corporations as clients. To that effect, Cherny builds a portfolio of securities taking into consideration the probability of a professional liability event occurring, and the relative amount by which the market value of two companies would be affected by a liability triggering effect. The distribution of the quantities of securities in each company within the portfolio is selected by computing a minimum variance portfolio of those securities, calculated from an adjusted variance-covariance matrix of those securities. The objective of such a computation is to minimize the risk of a portfolio. Hence, the field of Cherny’s invention is different from Applicants’, and so is the method used.

Cherny, in the text cited in the Office Action also mentions “the relative amount by which the market value of the two companies would be affected by a liability triggering event.” Again, this citation does not teach at least the Applicants’ claimed limitations “identifying a plurality of factors associated with said at least two instruments,” (whose comparability is to be determined by the method claimed by Applicants). No plurality of factors associated with two instruments whose comparability is to be determined is identified in Cherny.

Further, Applicants respectfully disagree with the assertion in the Office Action that “determining a value for each of said plurality of factors for each of said at least two instruments” is disclosed in column 5, lines 50-65 of Cherny. The cited section of Cherny recites:

*[C]ommonly, numerical techniques which are especially well-suited for digital computers.*

*The result of the optimization of the variance-covariance matrix will be a collection of coefficients or weights  $x_{ip}$  representing the relative quantities of securities in each company in which positions should be established to provide the desired coverage in accordance with the invention. If the coefficients are normalized so that they total 1.0, that normalized set of coefficients could be thought of as representing one "unit" of professional liability coverage. The number of "units," and thus the total number of securities of each company, in which positions are to be established would depend on the amount of coverage required of desired by the professional, as discussed below.*

*In a preferred embodiment of the invention, the computation of weights associated with the securities that comprise...*

Cherny, col. 5, lines 50-65 (emphasis added)

Applicants respectfully submit that as the underlined text indicates, Cherny refers to a number of weights which represent the amount of securities in each company the portfolio providing the liability coverage should have, not the weight of each one of the factors Cherny refers to earlier in col. 4, lines 60 - col. 5, line 11. The weights referred to by Cherny do not represent either the value for each of said plurality of factors for each of said at least two instruments (whose comparability is to be determined by Applicants' claimed method). Therefore, “determining a value for each of said plurality of factors for each of said at least two instruments” is not disclosed by Cherny.

For similar reasons, the limitations “forming a covariance matrix, said covariance matrix including a weighting factor for each of said plurality of factors wherein each of said weighting factors relates to an amount of market activity attributed to said corresponding one of said plurality of factors” and “determining the comparability of said at least two instruments based on said values for each of said at least two instruments and said covariance matrix” are not disclosed by Cherny either.

For reasons similar to those just presented, the fact that Cherny discloses that “the covariance of a steel company and an automobile company might be about 0.2, the covariance of a bus company and an airline would be -1.0” cannot be used to support a 35 U.S.C. 102(b) rejection of Applicants’ claim limitations “determining the comparability of said at least two instruments based on said values for each of said at least two instruments and said covariance matrix.”

Thus, not only does Cherny not anticipate claim 31, but it does not provide any guidance either to one of skill in the art on how to arrive at Applicants’ claimed invention. Cherny is not concerned with determining the comparability of at least two instruments, but with providing professional liability insurance through a portfolio of securities with minimized risk.

Claims 33 and 37 depend from independent claim 31, and define further features and steps of the method. Accordingly, these claims are patentable for at least same the reasons noted above with respect to claim 31, as well as for the additional features recited therein.

For at least the foregoing reasons, Applicants respectfully request that the Examiner withdraw the 35 U.S.C. 102(b) rejection of claims 31, 33 and 37. Notice to the effect that claims 31, 33 and 37 are in condition for immediate allowance is respectfully requested.

**Claims 1-30, 32, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cherny, U.S. Patent No. 5,852,808.**

**Regarding to claim 1, Cherny discloses method for determining the comparability of at least two stocks, comprising the steps of:**

**identifying a plurality of factors associated with said at least two stocks (column 4, line 60 - column 5, line 25);**

**determining a value for each of said plurality of factors for each of said at least two stocks (column 5, lines 50-65);**

**forming a covariance matrix, said covariance matrix including a weighting factor for each of said plurality of factors wherein each of said weighting factors relates to an amount of market activity attributed to said corresponding one of said plurality of factors (column 4, lines 20-47);**

**determining the comparability of said at least two stocks based on said values for each of said at least two stocks and said covariance matrix (column 4, lines 1-10, e.g., the covariance of a steel company and an automobile company might be about 0.2, the covariance of a bus company and an airline would be -1.0).**

**Cherny does not disclose comparing two bonds. However, bond is a well-known financial instrument. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Cherny’s to replace “a stock” by “a bond”, for the purpose of providing more efficiency in comparing two bonds.**

Office Action, pg. 3-4.

Applicants respectfully traverse the 35 U.S.C. 103(a) rejection for at least the reason that the Office Action has not been established a *prima facie* case of obviousness (see MPEP § 2142).

Applicants respectfully submit that a *prima facie* case of obviousness has not been established because (a) even if Cherny was modified, it does not describe or suggest all of the claimed limitations of at least independent claims 1, 9, 11, 12 and 20; and (b) there is no motivation to modify the teachings of Cherny.

(a) Even if Cherny was modified, it does not describe or suggest all of the claimed limitations of the present invention:

The rationale presented by Applicants above to traverse the 35 U.S.C. 102(b) rejection applies to the traversal of the 35 U.S.C. 103(a) rejection of claims 1, 9, 11, 12 and 20.

Further, Applicants agree with the statement in the Office Action that Cherny does not provide any teachings directed to bonds.

(b) There is no motivation to modify Cherny's teachings:

The Office Action has provided the following arguments to support the statement that it would have been obvious to a person of ordinary skill in the art to modify Cherny:

**However, bond is a well-known financial instrument. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Cherny's to replace "a stock" by "a bond", for the purpose of providing more efficiency in comparing two bonds.**

Office Action, pg. 4.

Applicants respectfully disagree with the statement that "it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Cherny's to replace "a stock" by "a bond", for the purpose of providing more efficiency in comparing two bonds" for at least the reason that effecting such a substitution would not result in Applicants' claimed invention. As discussed earlier, Cherny is not concerned with a method of determining the comparability of at least two bonds. In fact, Cherny is not even concerned with a method of determining the comparability of at least two stocks or at least two instruments. As explained earlier, Cherny is concerned with devising a strategy to provide professional liability insurance coverage to

professionals who have publicly traded corporations as clients. To that effect, Cherny builds a portfolio of securities taking into consideration the probability of a professional liability event occurring, and the relative amount by which the market value of two companies would be affected by a liability triggering effect. The distribution of the numbers corresponding to the quantities of securities in each company is selected by computing a minimum variance portfolio of those securities, calculated from an adjusted variance-covariance matrix of those securities. The objective of such a computation is to minimize the risk of a portfolio. Hence, not only is the field of Cherny's invention different from Applicants', but so is the method used.

Thus, if faced with the problem of determining the comparability of two bonds, or even if faced with the problem of determining the comparability of two stocks, one of skill in the art would not resort to Cherny as a source of guidance. Moreover, even if one of skill in the art did resort to Cherny, there would be no disclosure whether modified or not, to arrive at Applicants' claimed invention.

**Claim 9 contains similar limitations found in claim 1 above, therefore, is rejected by the same rationale.**

Office Action, pg. 6.

Applicants respectfully submit that the Office Action does not provide evidence showing that Cherny discloses or refers to at least a "primary bond." Applicants respectfully submit that the Office Action states that claim 9 contains "similar limitations" found in claim 1, but it but does not provide any explanation as to why Cherny renders claim 9 obvious. Applicants respectfully submit that the Office Action does not "clearly explain" to Applicants the "pertinence" of the cited prior art (see MPEP § 707, § 707.05, § 707.07(f)-(g)).

Hence, Applicants hereby respectfully request that a more detailed action on the rejection of claim 9 is provided addressing all claim limitations involved, or that the claim rejection be withdrawn.

**Claim 11 contains similar limitations found in claim 1 above, therefore, is rejected by the same rationale.**

Office Action, pg. 6.

Applicants respectfully submit that the Office Action does not provide evidence showing that Cherny discloses or refers to at least “determining the comparability between said portfolio of bonds and said index of bonds based on said values for said portfolio of bonds, said values for index of bonds and said covariance matrix.” Applicants respectfully submit that the Office Action states that claim 11 contains “similar limitations” found in claim 1, but it does not provide further explanation as to why Cherny renders claim 11 obvious. Applicants respectfully submit that the Office Action does not “clearly explain” to Applicants the “pertinence” of the cited prior art (see MPEP § 707, § 707.05, § 707.07(f)-(g)).

**Claims 12-19 contain similar limitations found in claims 1-8 above, therefore, are rejected by the same rationale.**

Office Action, pg. 6.

Applicants respectfully traverse this rejection for at least reasons provided earlier with respect to the claim limitations shared with claim 1.

**Claims 20-29 are written in apparatus and contain similar limitations found in claims 1-8 above, therefore, are rejected by the same rationale.**

Office Action, pg. 6.

Applicants respectfully submit that the Office Action has not provided evidence showing that Cherny discloses or refers to at least “a factor vector generator,” “a covariance matrix generator,” and “a comparability calculator.” Applicants respectfully submit that the Office Action states that claims 20-29 contain “similar limitations” found in claims 1-8, but it does not provide further explanation as to why Cherny renders claims 20-29 obvious. Applicants respectfully submit that the Office Action does not “clearly explain” to Applicants the “pertinence” of the cited prior art (see MPEP § 707, § 707.05, § 707.07(f)-(g)).

Applicants respectfully submit that for at least the foregoing reasons, the Office Action has not presented a convincing line of reasoning as to why the artisan would have found the claimed invention to be obvious in light of the teachings of the prior art references (see MPEP § 2142).

Hence, Applicants respectfully submit that at least independent claims 1, 9, 11, 12, 20 and 31 are distinguishable over Cherny and notice to the effect that the pending independent claims are in condition for immediate allowance is respectfully requested.

Claims 2-8 depend directly or indirectly from independent claim 1, claim 10 depends from claim 9, claims 13-19 depend directly or indirectly from claim 12, claims 21-30 depend directly or indirectly from claim 20, and claims 32-37 depend directly or indirectly from claim 31, respectively, and define further features and steps of the method, system or program code. Accordingly, these claims are patentable for at least the reasons noted above with respect to claims 1, 9, 11, 12, 20 and 31 as well as for the additional features recited therein. Notice to the effect that dependent claims 2-8, 13-19, 21-30 and 32-37 are in condition for immediate allowance is respectfully requested.




**CONCLUSION**

Claims 1-37 are now pending and are believed to be in condition for allowance. For the reasons set forth above, allowance of this application is courteously urged. The Examiner is respectfully requested to reconsider the application at an early date with a view towards issuing a favorable action thereon. If there remain any questions regarding the present application or any of the cited references, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is cordially requested to contact the undersigned at (212) 895-1376 in order for the undersigned to arrange for an interview with the Examiner.

The Commissioner is authorized to charge and fees required in connection with this submission to Deposit Account No. 50-0521.

Respectfully submitted,

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